

What is claimed is:

1. A spreading code generation apparatus comprising:
  - one spreading code generator;
  - 5 a storage circuit capable of storing spreading codes generated from said one spreading code generator;
  - a searcher that acquires synchronization of a CDMA signal received through multi-paths and outputs synchronization acquisition information including
  - 10 reference timing information necessary to specify a relative positional relationship between paths and delay time information on delays relative to the reference timing;
  - a plurality of correlators provided according to
  - 15 said paths that despread said CDMA signal at timings corresponding to the respective paths of said multi-paths; and
  - a timing control circuit that controls the timing of supplying said spreading codes stored in said storage
  - 20 circuit to said plurality of correlators based on said synchronization acquisition information output from said searcher.
2. A spreading code generation apparatus comprising:
  - 25 one spreading code generator;
  - a shift register that temporarily stores spreading codes generated from said one spreading code generator and outputs said spreading codes with different delays

in parallel from respective taps;

a searcher that acquires synchronization of a CDMA signal received through multi-paths and outputs synchronization acquisition information including  
5 reference timing information necessary to specify a relative positional relationship between paths and delay time information on delays relative to the reference timing;

a plurality of correlators provided according to  
10 said paths that despread said CDMA signal at timings corresponding to the respective paths of said multi-paths; and

at least one selector provided between said shift register and said plurality of correlators that selects  
15 one of spreading codes with different delays output in parallel from the respective taps of said shift register based on said synchronization acquisition information output from said searcher and supplies the selected spreading code to one of said plurality of correlators.

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3. The spreading code generation apparatus according to claim 2, wherein said at least one selector comprising:

decoders that decode said synchronization acquisition information and generate a plurality of data  
25 bits in parallel; and

a plurality of gate circuits, each gate circuit receiving as inputs one of a plurality of spreading codes with different delays output in parallel from the

respective taps of said shift register and one bit of said plurality of data bits output from said decoder and controlling whether output of said spreading code entered should be enabled or disabled according to the  
5 value of said 1 bit.

4. A spreading code generation apparatus comprising:  
one spreading code generator;  
a RAM for storing spreading codes generated from  
10 said one spreading code generator;  
a searcher that acquires synchronization of a CDMA signal received through multi-paths and outputs synchronization acquisition information including reference timing information necessary to specify a  
15 relative positional relationship between paths and delay time information on delays relative to the reference timing;  
a plurality of correlators provided according to said paths that despread said CDMA signal at timings  
20 corresponding to the respective paths of said multi-paths;  
a write access control circuit that continuously generates write addresses for said RAM in synchronization with a predetermined operating clock and  
25 writes data corresponding to 1 chip of spreading codes output from said one spreading code generator at a time at different addresses of said RAM; and  
a read access control circuit that continuously

generates read addresses for said RAM in synchronization with a predetermined operating clock and controls the timing at which the addresses generated are supplied to said RAM based on said synchronization acquisition  
5 information output from said searcher.

5. A CDMA receiver equipped with the spreading code generation apparatus according to claim 1.

10 6. A CDMA receiver equipped with the spreading code generation apparatus according to claim 2.

7. A CDMA receiver equipped with the spreading code generation apparatus according to claim 3.

15 8. A CDMA receiver equipped with the spreading code generation apparatus according to claim 4.

9. A spreading code generating method of generating  
20 spreading codes whose phases are adjusted to correspond to respective paths of multi-paths, comprising the steps of:

temporarily storing a spreading code string generated from one spreading code generator in a shift  
25 register configured to output data in parallel from respective taps; and

selecting one of spreading codes with different delays output in parallel from memory based on reference

1. The first step is to identify the problem. This involves understanding the symptoms and the context in which they are occurring.

10           storing a spreading code string generated from one  
spreading code generator in a RAM; and

15 thereby generating spreading codes with phases adjusted.